

REMARKS

The Examiner is thanked for the thorough examination and search of the subject.

Response to Claim Rejections under 35 U.S.C. 112

Reconsideration of Claim 283 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 283, the recitation "a metal layer over said top surface and extending to a place not over said die" is canceled. Therefore, the withdrawal of the above-mentioned rejection is requested.

Response to Claim Rejections under 35 U.S.C. 102 and 103

Applicants respectfully traverse the rejections for at least the reasons set forth below.

Response to Claims 281

As previously added, independent claim 281 is recited below:

281. A method for fabricating an electronic component, comprising:
joining a backside of a die and a substrate, wherein said die has a top surface at a horizontal level; and
after said joining said backside of said die and said substrate, depositing a bump over said horizontal level, wherein said bump comprises gold.

Section I: Reconsideration of Claim 281 rejected under 35 U.S.C. 102(b) as being anticipated by Sakurai (US6,078,104).

Applicants respectfully assert that the method claimed in claim 281 patentably distinguishes over the citations by Sakurai (US6,078,104).

Sakurai teaches that a method for fabricating an electronic component comprises, after depositing a bump 6 or 66 comprising gold over a substrate 5 or 55, joining a die 1 and the substrate 5 or 55. ~ See FIGS. 2 and 3, and line 65, col. 1 through line 65, col. 5 ~ However, Sakurai fails to teach, hint or suggest that after joining a die 1 and a substrate 5 or 55, a bump 6 or 66 comprising gold is deposited over a horizontal level at which is a top surface of the die 1.

For at least the foregoing reasons, applicants respectfully submit independent claim 281 patently distinguishes over the prior art references, and should be allowed.

Section II: Reconsideration of Claim 281 rejected under 35 U.S.C. 102(b) as being anticipated by Kim et al (US6,004,867).

Applicants respectfully assert that the method claimed in claim 281 patentably distinguishes over the citations by Kim et al (US6,004,867).

Kim et al teach that a method for fabricating an electronic component comprises joining a wafer 300 and a substrate 320. ~See FIG. 5C, and lines 36-47, col. 5 ~ However, Kim et al fail to teach, hint or suggest that the method comprises joining a die, not a wafer, and a substrate 320. Those skilled in the art should know that "die" is not "wafer", wherein a wafer should be understood to be divided into multiple dies by cutting, for example.

For at least the foregoing reasons, applicants respectfully submit independent claim 281 patentably distinguishes over the prior art references, and should be allowed.

Response to Claim 283

As currently amended, independent claim 283 is recited below:

283. A method for fabricating an electronic component, comprising:
joining a die and a substrate, wherein said die has a top surface at a horizontal level; and
after said joining said die and said substrate, depositing a passive device over said
horizontal level.

Reconsideration of Claim 283 rejected under 35 U.S.C. 102(b) as being anticipated by Eichelberger (US5,841,193).

Applicants respectfully assert that the method claimed in claim 283 patentably distinguishes over the citation by Eichelberger (US5,841,193).

Eichelberger teaches that a method for fabricating an electronic component comprises joining a die 102 and a substrate 140, wherein the die 102 has a top surface at a horizontal level.
~ See FIG. 5c, and lines 25-43, col. 10 ~

Eichelberger teaches that the method further comprises depositing a surface mount electronic component 220 over the horizontal level. ~ See FIG. 6, and lines 2-4, col. 12 ~
Eichelberger teaches what technology can be used to deposit an electronic component 220 over the horizontal level, but fails to teach, hint or suggest what kind of the electronic component 220 may be. Even though those skilled in the art know a passive device could be bonded to a pad using a surface mounting technology, but it doesn't mean that a surface mount electronic component must be a passive device. Other kinds of electronic components, such as active devices, also can be bonded to a pad using a surface mounting technology.

For at least the foregoing reasons, applicants respectfully submit independent claim 283 patentably distinguishes over the prior art references, and should be allowed.

Response to Claim 286

As currently amended, independent claim 286 is recited below:

286. A method for fabricating an electronic component, comprising:
depositing a polymer layer over a circuitry element;
grinding said polymer layer; and
depositing a metal layer over said polymer layer.

Reconsideration of Claim 286 rejected under 35 U.S.C. 102(e) as being anticipated by Akagawa (US6,590,291).

Applicants respectfully assert that the method claimed in claim 286 patentably distinguishes over the citation by Akagawa (US6,590,291).

Akagawa teaches that a method for fabricating an electronic component comprises depositing a polymer layer 26 over a circuitry element 40, and depositing a metal layer 28 over the polymer layer 26. ~ See FIGS. 2B and 2D, and paragraphs [0056], [0057] and [0063] ~ However, Akagawa fails to teach, hint or suggest the subject matter of grinding the polymer layer 26.

For at least the foregoing reasons, applicants respectfully submit independent claim 286 patentably distinguishes over the prior art references, and should be allowed.

Response to Claim 282

As currently amended, independent claim 282 is recited below:

282. A method for fabricating an electronic component, comprising:
depositing an insulating layer over a die, wherein said insulating layer comprises a porous structure.

Reconsideration of Claim 282 rejected under 35 U.S.C. 103(a) as being unpatentable over Cole et al. (US5,745,984) in combination with Casey et al. (US5,854,001).

Applicants respectfully assert that the method claimed in claim 282 patentably distinguishes over the citation by Cole et al. (US5,745,984) in combination with Casey et al. (US5,854,001).

Cole et al. teach that a method for fabricating an electronic component comprises depositing an insulating layer 24 over a die 12, wherein the insulating layer 24 may be thermoplastic polyetherimide. ~ See lines 42-61, col. 4 ~ Examiner found that Casey et al. had taught that the polyetherimide may be considered to have a porous structure. ~ See the third paragraph in item 10, on page 5, in the latest Office Action ~ However, there is not depicted that the polyetherimide has a porous structure in the indicated lines, col. 6, lines 46 +.

For at least the foregoing reasons, applicants respectfully submit independent claim 282 patently distinguishes over the prior art references, and should be allowed.

Response to Claim 284

As previously added, independent claim 284 is recited below:

284. A method for fabricating an electronic component, comprising:
providing a die having a top surface at a horizontal level; and
depositing a waveguide over said horizontal level.

Reconsideration of Claim 284 rejected under 35 U.S.C. 103(a) as being unpatentable over Saia et al. (US5,874,770).

Applicants respectfully assert that the method claimed in claim 284 patentably distinguishes over the citation by Saia et al. (US5,874,770).

Saia et al. teach that a method for fabricating an electronic component comprises providing a die 44 having a top surface at a horizontal level, and depositing a resistor 28, inductor 33 or capacitor 37 over the horizontal level. ~ See FIGS. 3-9, line 66, col. 4 through line 8, col. 7 ~ However, Saia et al. fails to teach, hint or suggest that a waveguide can be deposited over the

horizontal level. Applicants consider that the feature of "depositing a waveguide over a horizontal level at which is a top surface of a die" should be allowed because no one comes up with the claimed feature. If Examiner considers that the claimed subject matter exists in public, please show the evidence with a process of depositing a waveguide over the horizontal level.

For at least the foregoing reasons, applicants respectfully submit independent claim 284 patently distinguishes over the prior art references, and should be allowed.

Response to Claim 285

As previously added, independent claim 285 is recited below:

285. A method for fabricating an electronic component, comprising:
providing a die having a top surface at a horizontal level; and
depositing a micro electronic mechanical sensor (MEMS) over said horizontal level.

Reconsideration of Claim 285 rejected under 35 U.S.C. 103(a) as being unpatentable over Saia et al. (US5,874,770).

Applicants respectfully assert that the method claimed in claim 285 patentably distinguishes over the citation by Saia et al. (US5,874,770).

Saia et al. teach that a method for fabricating an electronic component comprises providing a die 44 having a top surface at a horizontal level, and depositing a resistor 28, inductor 33 or capacitor 37 over the horizontal level. ~ See FIGS. 3-9, line 66, col. 4 through line 8, col. 7 ~ However, Saia et al. fails to teach, hint or suggest that a micro electronic mechanical sensor (MEMS) can be deposited over the horizontal level. Applicants consider that the feature of "depositing a micro electronic mechanical sensor (MEMS) over a horizontal level at which is a top surface of a die" should be allowed because no one comes up with the claimed feature. If Examiner considers that the claimed subject matter exists in public, please show the evidence with a process of depositing a micro electronic mechanical sensor (MEMS) over the horizontal level.

For at least the foregoing reasons, applicants respectfully submit independent claim 285 patently distinguishes over the prior art references, and should be allowed.

CONCLUSION

For at least the foregoing reasons, it is believed that the pending claims 281-286 are in proper condition for allowance.

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Respectfully submitted,



Mou-Shiung Lin, CEO
For and on behalf of MEGIC
Corporation